

Microwave barrier
Contactless limit level switch for
bulk solids

FBM51

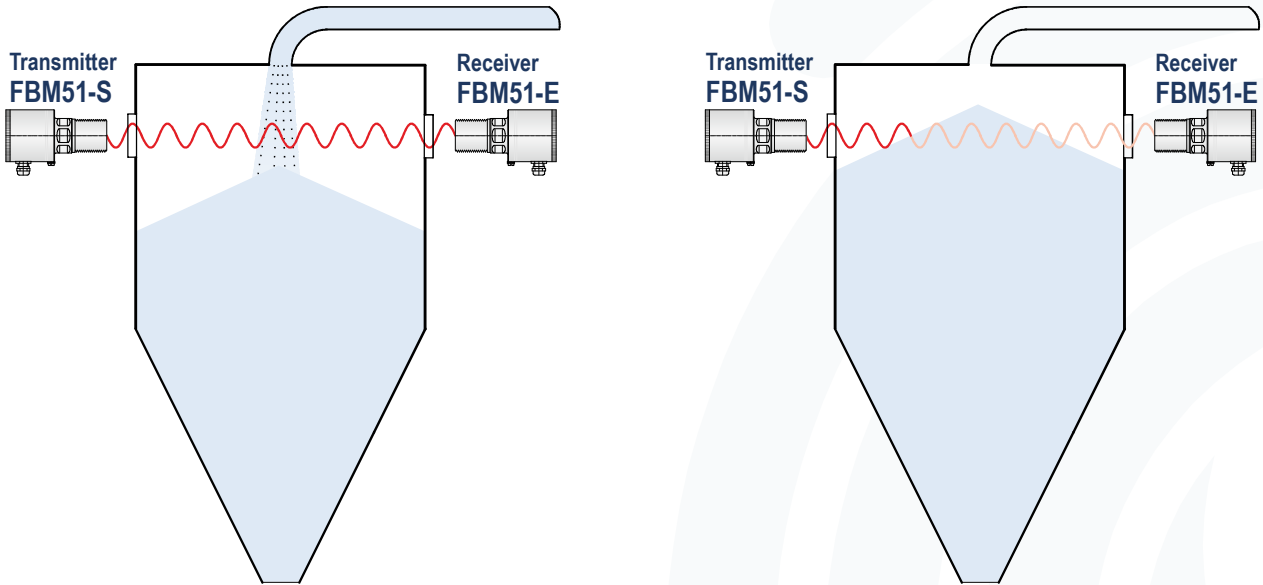
Appliance information

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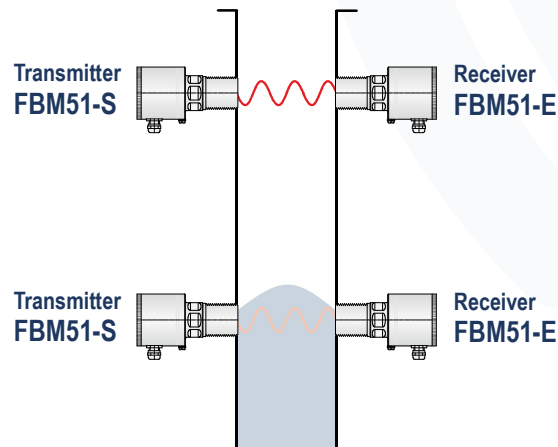
Sample applications

Sending and receiving through a glass or plastic window.

Silos and bins



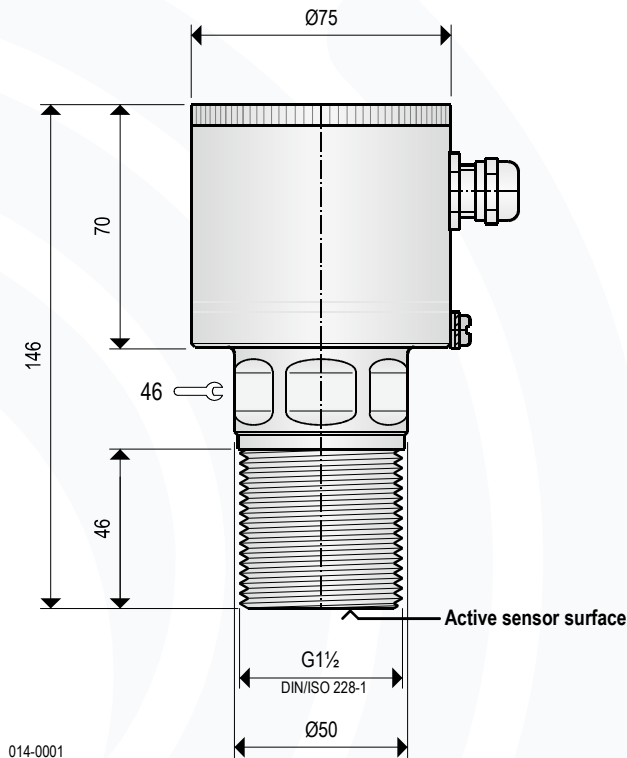
Jam or level indication in outlet tubes.



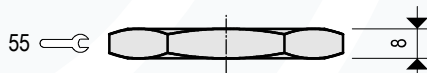
Appliance information

Dimensions

Transmitter FBM51-S and receiver FBM51-E
Both devices with the same dimensions.



014-0001



001-0150

Advantages

- Reliable microwave principle for limit level monitoring
- For all bulk solids
- Easy installation due to compact design
- Process connection with flange, thread, and others
- Adjustable: sensitivity, signal damping, hysteresis and filter settings

Use

The microwave barrier consists of one transmitter and one receiver. It is used for limit level monitoring of bulk solids in silos, container, storage vessels, tube systems, etc.

The continuously adjustable and easy setting of sensitivity, signal damping and hysteresis enable a variable setting of the switching point.

Function

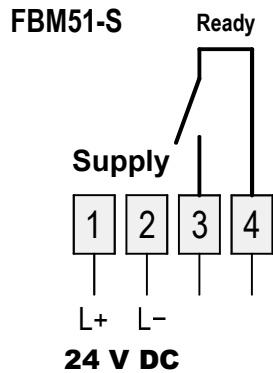
The contactless measurement of the barrier FBM51 is based on microwave technology. The transmitter transmits a microwave to the opposite receiver. If bulk solids are built up within the microwave, it will be damped. The receiver evaluates the microwave signals and trigger a switching operation.

Technical data

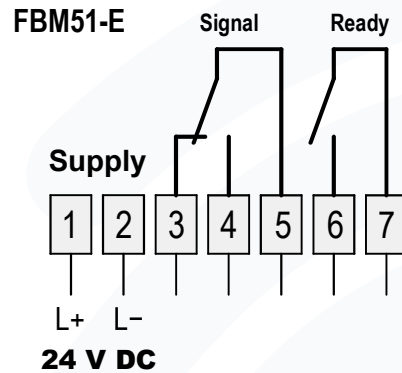
Material	housing	stainless steel 1.4301 / 304
	active sensor surface	PTFE (optional ceramic)
Process temperature	$T_{(Process)}$	-20 °C ... +90 °C
Ambient temperature	T_a	-20 °C ... +70 °C
Supply voltage	Supply	24 V DC (18 - 30 V DC)
Power consumption		2x approx. 80 mA at 24 VDC
Transmission power		10 dBm
Measuring range		0.15 m ... 25.00 m
Signal contact	Contact	1 potential free change-over contact 2 normally open contacts for Ready
Capacity of contact		10 µA ... 1 A 35 V AC or 45 V DC
Connection terminals		maximum 1.5 mm ² (pluggable)
Cable entry		gland 2x M16x1.5
Type of protection	IP	IP65 according to DIN EN 60529
Protection class		I ⊕
Process pressure	$p_{(Process)}$	up to 2 bar (optional 25 bar)
Weight		2x 1.25 kg = 2.50 kg
Maintenance		none
Installation position		any
Adjustable parameters		sensitivity, signal damping, hysteresis and filter settings
Parameterization		at the device
Display	LED green LED yellow Bargraph	operation switch output signal power

Appliance information

Electrical connection transmitter

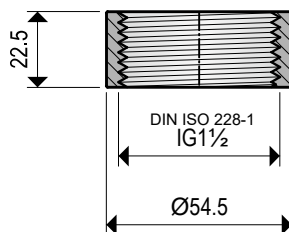


Electrical connection receiver



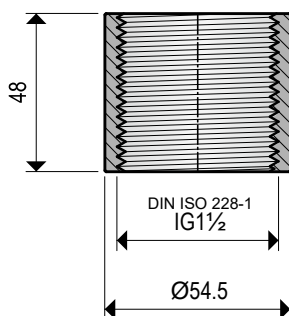
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Mounting accessories



Welding socket short

Size	Order number	Material
IG1½	MK3ST	St 37
IG1½	MK3V4	1.4571 / 316 Ti



Welding socket long

Size	Order number	Material
IG1½	ML3ST	St 37
IG1½	ML3V4	1.4571 / 316 Ti

014-0002

Sealing ring

DRG thread flat seal ring

PTFE (white)

Dimensions (mm)	Order number
60x47x3	K-SZIG2 DRG-PT